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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,442	06/11/2001	Mrinal Kanti Das	5308-168	2584

20792 7590 11/28/2003

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EXAMINER

JACKSON JR, JEROME

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 11/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,442

Applicant(s)

DAS ET AL.

Examiner

Jerome Jackson Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 33-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 33-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 21.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-21,33-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al 2/2000 with Smrtic '316.

Smrtic teaches MIM capacitors with bipolar transistors on semiconductor substrates for lower parasitic capacitance. The MIM design replaces a doped region capacitor plate with a metal plate to lower the capacitance. Wang teaches MIS capacitors on SiC semiconductor substrates with ONO dielectric. The difference between Wang and claim 2 is the recitation of a metal plate instead of a doped region. This difference is not patentable because Smrtic teaches and suggests replacing a doped capacitor plate with a metal plate to reduce parasitic capacitance. Accordingly the structure of claim 2 is obvious over the teachings and suggestions of the applied art. Claim 3 is rejected because Wang teaches ONO material. Claims 4 and 5 are rejected as "about" does not structurally distinguish over the prior art. Claim 6 is rejected as the ONO of the prior art should inherently possess the same properties. Likewise for claims 8 and 9. Claim 7 is rejected as Wang teaches deposited layers. Claim 10 is rejected as titanium is suggested by Smrtic. Claim 11 is rejected as Wang teaches a SiC substrate. Claim 12 is rejected as Smrtic teaches the capacitor integrated with bipolar transistors. Claim 13 is rejected as per claim 2. claims 13-21 are rejected as per the above claims.

Claims 33-46 are rejected as the process of Wang inherently produces SiON material and the claims are broad enough to read on the material of Wang.

Claims 33-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrijevic et al in view of Smrtic.

Dimitrijevic teaches and suggests SiON capacitor material for SiC substrate based capacitors. From Smrtic it would have been obvious to have practiced SiC based capacitor material as Dimitrijevic with metal capacitor plates to lower parasitic resistance. Together the references suggest applicant's claim 33 structure. The additional dependent claims do not add patentable limitations as the SiON material of Dimitrijevic inherently possesses the claimed properties.

Claim 1 is "provisionally allowable" because it does not recite metal capacitor plates and is therefor granted a filing date back to the parent application.

Claim 1 is rejected under the judicially created doctrine of double patenting over claim 1 of U. S. Patent No. 6,246,076 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a silicon carbide based MOS capacitor with triple layer dielectric.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of

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the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 703 308 4937. The examiner can normally be reached on t-th 9-5. The fax phone number for the organization where this application or proceeding is assigned is 703 308 7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

jj


JEROME JACKSON
PRIMARY EXAMINER